Notice of Allowability	Application No.	Applicant(s)	
	09/844,398	PAUL ET AL.	
	Examiner	Art Unit	
	Ramy M. Osman	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *amendment filed September 19, 2007*.

2. ☒ The allowed claim(s) is/are *3-8,11-17,20-25,28-34,37-42 and 45-51*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

ARNO ETIENNE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

DETAILED ACTION

Status of Claims

1. This action is responsive to amendment filed on September 18, 2007, where Applicant amended claims 3-8,20,21,23-25,37,38,40-42. Claims 3-8,10-17,20-25,27-34,37-42,44-51 are pending.

Response to Arguments

2. Applicant's arguments, filed 9/18/2007, with respect to the rejection of claims 3-8,10-17,20-25,27-34,37-42,44-51 have been fully considered. In light of the amendments below, the rejections of those claims are withdrawn.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney Peter Manzo (reg 54700) on November 20, 2007.

The application has been amended as follows:

Specification (Amended): On page 32, line 25 amend the specification as follows:

readable media include storage-type media such as EPROM, ROM, Tape,

Amendments to the claims are as follows:

Claim 3. (Amended) A method within a server device for facilitating a remote boot process in a client device, wherein the client device and the server device reside on a network, the method comprising the steps of:

determining whether or not the server device is able to service an additional boot request;

receiving at the server device a boot request from the client device, wherein the server device is one of a plurality of boot servers on the network, and wherein the server device is able to respond to a boot request from any client device on the network; [[and]]

responsive first to determining that the server device is able to service an additional boot request and second to receiving at the server device the boot request from the client device, sending a boot response to the client device, wherein the boot response directs the client device to download boot files from the server device; and

employing a self-throttling process to prevent the server device from servicing an additional remote boot process for an additional client device if the server device has insufficient resources for servicing an additional remote boot process.

Claim 6. (Amended) A method within a server device for facilitating a PXE-compliant (Preboot Execution Environment compliant) remote boot process in a client device, wherein the client device and the server device reside on a network, the method comprising the steps of:

determining whether the server device has sufficient resources to service a remote boot process for an additional client device;

receiving at the server device a PXE-extended DHCP (Dynamic Host Configuration Protocol) Request message from the client device, wherein the server device is one of a plurality of boot servers on the network, and wherein the server device is able to respond to a PXE-extended DHCP Request message from any client device on the network;

processing the received PXE-extended DHCP Request message within a Proxy DHCP service on the server device; [[and]]

responsive first to determining that the server device has sufficient resources to service a remote boot process for an additional client device and second to processing the received PXE-extended DHCP Request message, sending from the server device a PXE-extended DHCP Ack message to the client device, wherein the PXE-extended DHCP Ack message directs the client device to download boot files from the server device; and

employing a self-throttling process to prevent the server device from servicing an additional remote boot process for an additional client device if the server device has insufficient resources for servicing an additional remote boot process.

Claim 10. (Cancelled)

Claim 11. (Amended): The method of claim ~~10~~ 6 further comprising:

Claim 14. (Amended): The method of claim ~~10~~ 6 further comprising:

Claim 15. (Amended): The method of claim ~~10~~ 6 further comprising:

Claim 16. (Amended): The method of claim ~~10~~ 6 further comprising:

Claim 17. (Amended): The method of claim ~~10~~ 6 further comprising:

20. (Amended) An apparatus within a server device for facilitating a remote boot process in a client device, wherein the client device and the server device reside on a network, the apparatus comprising:

determining means for determining whether or not the server device is able to service an additional boot request;

receiving means for receiving at the server device a boot request from the client device, wherein the server device is one of a plurality of boot servers on the network, and wherein the server device is able to respond to a boot request from any client device on the network; [[and]]

sending means for sending a boot response to the client device in response first to determining that the server device is able to service an additional boot request and second to receiving at the server device the boot request from the client device, wherein the boot response directs the client device to download boot files from the server device; and

employing a self-throttling process to prevent the server device from servicing an additional remote boot process for an additional client device if the server device has insufficient resources for servicing an additional remote boot process.

23. (Amended) An apparatus within a server device for facilitating a PXE-compliant (Preboot Execution Environment compliant) remote boot process in a client device, wherein the client device and the server device reside on a network, the apparatus comprising:

determining means for determining that the server device has sufficient resources to service a remote boot process for an additional client device;

first receiving means for receiving at the server device a PXE-extended DHCP (Dynamic Host Configuration Protocol) Request message from the client device, wherein the server device is one of a plurality of boot servers on the network, and wherein the server device is able to respond to a PXE-extended DHCP Request message from any client device on the network;

first processing means for processing the received PXE-extended DHCP Request message within a Proxy DHCP service on the server device; [[and]]

first sending means for sending from the server device a PXE-extended DHCP Ack message tothe client device in response first to determining that the server device has sufficient resources to service a remote boot process for an additional client device and second to processin~ the received PXE-extended DHCP Request message, wherein the PXE-extended DHCP Ack message directs the client device to download boot files from the server device ; and

employing a self-throttling process to prevent the server device from servicing an additional remote boot process for an additional client device if the server device has insufficient resources for servicing an additional remote boot process.

Claim 27. (Cancelled)

Claim 28. (Amended): The apparatus of claim ~~27~~ 23 further comprising:

Claim 31. (Amended): The apparatus of claim ~~27~~ 23 further comprising:

Claim 32. (Amended): The apparatus of claim ~~27~~ 23 further comprising:

Claim 33. (Amended): The apparatus of claim ~~27~~ 23 further comprising:

Claim 34. (Amended): The apparatus of claim ~~27~~ 23 further comprising:

37. (Amended) A computer program product in a computer readable storage medium for use within a server device for facilitating a remote boot process in a client device, wherein the client device and the server device reside on a network, the computer program product comprising:

instructions for determining whether or not the server device is able to service an additional boot request;

instructions for receiving at the server device a boot request from the client device, wherein the server device is one of a plurality of boot servers on the network, and wherein the server device is able to respond to a boot request from any client device on the network; [[and]]

instructions for sending a boot response to the client device, wherein the boot response directs the client device to download boot files from the server device in response first to execution of the instructions for determining that the server device is able to service an additional boot request and second to execution of the instructions for receiving at the server device the boot request from the client device; and

employing a self-throttling process to prevent the server device from servicing an additional remote boot process for an additional client device if the server device has insufficient resources for servicing an additional remote boot process.

40. (Amended) A computer program product in a computer readable storage medium for use within a server device for facilitating a PXE-compliant (Preboot Execution Environment compliant) remote boot process in a client device, wherein the client device and the server device reside on a network, the computer program product comprising:

instructions for determining that the server device has sufficient resources to service a remote boot process for an additional client device;

instructions for receiving at the server device a PXE-extended DHCP (Dynamic Host Configuration Protocol) Request message from the client device, wherein the server device is one of a plurality of boot servers on the network, and wherein the server device is able to respond to a PXE-extended DHCP Request message from any client device on the network;

instructions for processing the received PXE-extended DHCP Request message within a Proxy DHCP service on the server device; [[and]]

instructions for sending from the server device a PXE-extended DHCP Ack message to the client device in response first to execution of the instructions for determining that the server device has sufficient resources to service a remote boot process for an additional client device and second to execution of the instructions for processing the received PXE-extended DHCP Request message, wherein the PXE-extended DHCP Ack message directs the client device to download boot files from the server device; ; and

employing a self-throttling process to prevent the server device from servicing an additional remote boot process for an additional client device if the server device has insufficient resources for servicing an additional remote boot process.

Claim 44. (Cancelled)

Claim 45. (Amended): The computer program product of claim [[44]] 40 further comprising:

Claim 48. (Amended): The computer program product of claim [[44]] 40 further comprising:

Claim 49. (Amended): The computer program product of claim [[44]] 40 further comprising:

Claim 50. (Amended): The computer program product of claim [[44]] 40 further comprising:

Claim 51. (Amended): The computer program product of claim [[44]] 40 further comprising:

Allowable Subject Matter

4. Claims 3-5,6-8,11-17,20-25,28-34,37-42,45-51 are allowed.

5. The following is an examiner's statement of reasons for allowance: Applicants invention of a fault tolerant server device for facilitating a remote boot process in a client device, where both the server and client devices are on a network, is found to be patentable. Prior art references found to be pertinent to Applicants disclosure (such as Patent Numbers: 7,139,816, 6,928,538, 6,871,210, 6,898,701, 6,631,115), either only teach minor aspects of the invention or only teach the general environment of the invention. The collective prior art, neither singly or in combination, do not teach the claim limitations.

The particular novel feature of the invention (as mentioned in the claims) is the implementation of a fault tolerant method by a boot server employing a self-throttling process which prevents the server device from servicing an additional remote boot process for an additional client device if the server device has insufficient resources for servicing an additional remote boot process. However, the self-throttling process is not employed only if responsive to firstly determining that the server device has sufficient resources to service additional boot request/process from additional client devices and secondly receiving at the server device the boot request from the client device, the server would then send a boot response (like an Ack message) to the client device, wherein this boot response directs the client device to download boot files from the server device.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramy M. Osman whose telephone number is (571) 272-4008. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RMO
November 20, 2007

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